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PRESS RELEASE

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FOR IMMEDIATE RELEASE

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MANURE HANDLING SAFETY
Never try shortcuts.

Whether livestock manure is stored in an open area – such as a lagoon or slurry tank – or inside or beneath an animal housing unit, its storage and handling pose potentially life-threatening dangers.

"While manure is commonly applied in the fall, some producers choose to apply manure prior to planting spring crops," Amy Millmier Schmidt, University of Nebraska-Lincoln Associate Professor and Livestock Manure Management Engineer, says. "The first step to reducing risks related to manure handling making sure everyone involved is trained. Don't assume that either your kids or hired help thoroughly understand what they need to do to stay safe."

Schmidt points out that hired help may be hesitant to admit they're not thoroughly familiar with safe manure application principles. They may fear that asking questions could lead to losing their job.

"Spring is always a busy time on the farm," Schmidt says. "But never rush through this task. Putting safety ahead of time is always the goal."

No matter how manure is stored, there is potential for hydrogen sulfide gas to be released whenever stored manure is pumped or moved. The greatest risk for hydrogen sulfide gas exposure exists with thick "slurry" manure stored beneath slatted floors of livestock housing or in a separate concrete or steel tank outside the housing. Even a manure/bedding mixture in a facility such as a hoop barn or other bedded livestock housing systems can contain pockets of this gas.

“When a person first comes in contact with hydrogen sulfide, they’ll smell it,” Schmidt says. “It’s a sulfur smell similar to rotten eggs. Often, when the concentration of the gas is at a dangerous and deadly level, you won’t smell it anymore.”

The reason the odor seems to disappear is that the olfactory senses are overcome by the smell of the gas. A person may believe they’re safe because the gas odor is gone, when in truth they’re in danger of losing their life due to its concentration.

“I know most people aren’t going to invest in a hydrogen sulfide meter, which will test the concentration of the gas,” Schmidt says. “However, you might consider borrowing one from your local emergency management agency or fire department to help safeguard the person working with stored manure.”

Another recommended practice when hauling stored manure is having a second person on scene to quickly summon help if a worker is overcome by hydrogen sulfide gas or encounters another dangerous situation.

“This is a highly recommended safety principle anytime you’re working around a manure storage area,” Schmidt says. “Whether you find it necessary to enter a pit to access a pump or are just agitating or pumping the manure, have someone available to help if things go wrong.”

Wearing a harness attached to a winch or rope so, if necessary, the observer can pull a worker out of a pit or other dangerous enclosure can help prevent the loss of multiple lives.

“Something as simple as a rope tied around your upper body will allow for pulling you out rather than someone else attempting to enter the dangerous environment,” Schmidt says. “It’s our natural instinct to want to help when someone is incapacitated in a pit or storage area. The most tragic scenario occurs when another person loses their life in the process of trying to complete a rescue by entering the same dangerous area.”

Methane gas is also created during manure decomposition but is undetectable by smell as it has no odor. This highly flammable gas can be trapped and released quickly, particularly in slatted swine operations. Some swine manure pits have experienced foaming in the past several years. While the exact cause has not been identified, the filmy foam layer that develops on the surface of the stored manure can trap methane gas in the bubbles of the foam. The gas is released when bubbles in the foam bread, creating a danger of combustion.

“Anytime you’re working anywhere inside a slatted swine facility, look into the opening of the pit to see if there is a foamy film on top of the manure,” Schmidt says. “If there is a quick fix to disperse the gas, it’s to use water to break up the foam. Before breaking up the foam with this method or agitation of the pit, turn the ventilation system to its highest possible speed so the methane can be diluted and pulled out of the building. It is also advisable to remove animals from the structure and turn off any equipment that could serve as an ignition source.”

If methane gas has built up, any activity that produces a spark – i.e. welding, operating electrical devices, etc. – could cause the gas to ignite and produce an explosion or fire.

It’s not uncommon to haul solid manure in an open truck that doesn’t trap gases. However, hauling slurry manure in an enclosed tank means the manure is in a confined space and gases can build up to dangerous levels. No one should enter a manure tank or even elan into it through an opening when it contains even a small amount of manure as hydrogen sulfide could accumulate to a dangerous concentration.

“Just one inhalation of a dangerously high concentration of hydrogen sulfide gas can cause a person to lose consciousness,” Schmidt says.

Another key safety principle is preventing easy access to storage structures such as lagoons, tanks, or pits.

“Think of these storage areas in the same way as you would a swimming pool on your property – as a potential drowning hazard,” Schmidt says. “Installing some kind of barrier – a fence, guardrail, etc. – is recommended to help keep anyone from accidentally entering the stored manure either on foot or in a piece of equipment.”

No matter how familiar a farmer or their family may be with the farm site, accidents like these can occur when people are working in low light conditions early in the morning or late in the evening.

“Even those who know their property well could accidentally drive into a structure like this,” Schmidt says. “It’s best to install warning signs around the structure perimeter and put up a fence or some kind of barrier to prevent accidental entry.”

Farming has long been the most hazardous occupation in the world, and hurried decisions made by tired workers increase the risk of injury or death. Every year we see tragic stories of workers dying in or around manure storage.

“Despite having performed a task numerous times with no negative consequences, hurrying to accomplish something can cause us to make poor decisions,” Schmidt says. “Always choose to do things safely while making the best use of your time.”

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